

ABSTRACT

Described is a composite liquid crystalline mixture having a low refractive index and a chemical reactive power that makes it capable of minimizing an anchoring energy when in contact with silica. This mixture comprises:

- (a) low ordinary refractive index nematic liquid crystal of a single type or a mixture of low ordinary refractive index nematic liquid crystals of different types;
- (b) at least one reagent compound capable of reducing the anchoring energy via a chemical shielding process and from which originates a decoupling effect with a glass interface leading to the reduction of the anchoring energy and appropriately orienting a liquid crystal director at this interface; and
- (c) at least one low refractive index additive having a relatively low viscosity.

The above mixture is useful in waveguide tuning applications.